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AUTHOR Doll, William E., Jr.; Petrina, Stephen
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ABSTRACT

This paper begins by describing the type of newspaper stories about global warming, AIDS vaccines, and frozen embryos that are neither pure science nor pure politics. The paper states that the French sociologist and commentator on cultural trends, Bruno Latour, calls such stories "hybrid articles." It suggests that the purity of the traditional disciplines has not prepared people for dealing with these hybridized networks, which have no history, no parentage, either scientifically or socially. A perusal of U.S. newspapers unearths the same type of stories. An article on Congress' attempt to establish a National Defense Shield, for example, intermixes technology, politics, economics, and patriotism. The paper describes Latour's latest book, "ARAMIS or the Love of Technology" (1996), which explores the same questions posed by "Star Wars," but with all the true facts in the novel placed in a fictitious frame. It then considers Martin Heidegger's seminal, 1950s essay, "The Question concerning Technology" and its relation to Latour's novel. Conclusions are that in this process of building a "nature-culture" network, Latour intends to keep and maintain the autonomy of both science and society, while at the same time blending them into a new whole, a whole where all have voices. Includes 4 notes; contains 9 references. (BT)

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"THE OBJECT(S) OF CULTURE: BRUNO LATOUR AND THE RELATIONSHIP BETWEEN SCIENCE AND CULTURE"

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Wm. E. Doll, Jr.
LSU - Baton Rouge
Louisiana, USA

Stephen Petrina
UBC - Vancouver
British Columbia, CANADA

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Wm. E. Doll, Jr.

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Bruno Latour, the French, contemporary sociologist, anthropologist, philosopher, commentator on current cultural trends, begins one of his recent books, We Have Never Been Modern (1993), with an analysis of the newspaper stories he and his colleagues find daily. These stories -- about global warming, AIDS vaccines, frozen embyros, the Pope and contraception pills -- he calls "hybrid articles" (p. 2). They are hybrids because, neither pure science nor pure politics, they muddle and mix, in an ever weaving network of social and technical relations, the cultural and the technological, the social and the scientific. To know how to handle the issues raised by global warming, AIDS vaccines, frozen embyros, and contraception pills is virtually impossible, for we have no past history of dealing with such hybrids. The purity of our traditional disciplines has not prepared us to deal with these hybridized networks, themselves a product of our unmodern society where "science, politics, economy, law, religion, technology, [and] fiction" (p. 2) mix and match themselves in increasingly complex displays. But dazzling as are these hybridized networks -- since they take on a life and personna of their own, Latour calls them "quasi-objects" (p. 51 ff.) -- they really have no history, no upbringing, no parentage, either scientifically or socially. Thus, they are dazzling and dangerous, *énfant terribles*.

While reading Latour on these "objects," I decided to pick up my own newspaper: Behold, I saw headlines describing the latest version of the U.S. Congress' current attempt to establish a "National Defense Shield" (Times-Picayune, March 25th, 1999). This shield, euphemistically called "Star Wars," was first suggested and supported by Ronald Regan when he was President. The article, on the front page, intermixes technology, politics, economics, and patriotism by having both Louisiana senators make comments on its prospects, showing graphic drawings of how American radar would (1) detect enemy missles, (2) distinguish between

warhead missles and decoys, and (3) launch the U. S.'s own interceptor missles to (4) destroy the incoming warheaded missles. Part of the comments read that this newer, updated version, quietly under development for the past ten years, will be able " to defend against small-scale missle attacks," launched by a "rogue nation." The very last sentence, under the four-stage graphics, and in small print reads:

> "The concept is similar to star wars; the
> program's feasibility remains unclear" (p. A 6).

The creature lives but who are its parents ? Who gave it birth ? Scientists, technicians, politicians, patriots ? And who will provide the (financial) sustenance needed for its nurture ?

In his latest (translated) book, ARAMIS or the Love of Technology (1996), Latour explores the same questions posed by "Star Wars." ARAMIS, obviously a play on one Alexandre Dumas' "Musketeers" is an anacronym for *Agencement en Rames Automatisées de Modusles Independent dans les Stations* or Arrangement in Automated Trains of Independent Modules in Stations --- more colloquially, small, mass transit cars, running in tandem but without being hitched mechanically. The idea is that, as independent vehicles, connected via "nonmaterial coupling" (magnets or electricity), the cars rather than the people in the cars would do the switchng as the car-trains moved about the city. This idea caught people's -- engineers, city planners, politicians -- immagination and so, conceived in 1969, Aramis was born (received funding) in 1972, lead a wandering youth without a definite family, was confirmed (received new bureaucratic blessing) in 1984, and quietly and silently passed from the life in 1987, still just a youth. Latour's quasi-novel is about "Who Killed Aramis ?" In a sense no one killed him (Yes, Aramis was a male quasi-object) for he was at best a dream and what protoplasm did exist became diffused among a number of other agencies and projects. As the sociologist and his young engineering assistant do a postmortem (a

post-modern postmortem ?) to discover the cause of "death" they find not real body, just bits and pieces of old records, letters, hopes. One governement minister says "It was a seductive idea, Aramis -- really quite ingenious" (p. 9) Aramis, speaking beyond the grave on his own behalf, says later-on in the book, "You loved me as an idea. You loved me as long as I was vague," unreal (p. 294). Did Aramis' death actually lie in his birth ? Does our love of technology always need to lie in our dreams (of what it possibly can do) ? Does the birth of that technology always disappoint ? Think of the combustion engine ! Nuclear power ! "Smart bombs" ! Yet, yet, yet . . . the hope remains !

As the book ends (pp. 300 - 01), the sociologist (Latour) is disillusioned but the young engineer (technology's new man) decides to journey off to find a "purely technological project, a doable project." He picks "smart cars," ones that run individually and automatically over technologically developed highways. On the way back from a "smart car" conference in California (where else !) he notices an article in the San Diego Union: FAMILY-SIZED MASS TRANSIT CARS TO BE STUDIED AS ANSWER TO CITY CONGESTION.

He says to himself:

> Damn . . . if they'd just waited . . . Aramis would have been on the right path . . . A billion dollars . . . It's all becoming profitable again. I shoud have stuck with guided transportation. (p. 301)

Latour's intent is not to denigrate technology, far from it; technology not only is part and parcel of our current life, underpinning that life, as it were, it also is an expression of the procreative urge with us. Rather Latour seeks "to show technicians . . . that by bcoming good sociologists and humanists they can become better engineers"; and to show sociologists that "they can welcome crowds of nonhumans with open arms." (p. viii). Latour wants to bridge or fuse two "clearly separated universes." Unless we understand how research melds with politics,

unless we understand how both are fueled by the human passion to create, unless we understand the cultural origins of technology, and how technology represents the hopes and consequently the failures of our society (Martin Heidegger's *Gestell*, 1977/1955), we will destroy ourselves as we promiscuously conceive, unconsciously birth, uncritically nurture, and blindly follow the quasi-monsters we have created.

ARAMIS (1996) is a playfully serious book, all the facts in the novel are true but they are placed in a fictious frame; thus "the hybrid genre I have devised for a hyrid task is what I call *scientifiction*" (p. ix). We Have Never Been Modern (1993) is playful in its own right but it is also deadly serious, as ARAMIS is only serious, We Have Never Been Modern is an academic book and represents Latour's (currently translated) best attempt at wrestling with the issues of science and culture, particularly in our "post" age. There are a number of ways to view Latour's arguments in this book, and one of them is certain through the concept of our "post" age, an issue Latour obliguely refers to in his title. While I will comment on this strand later, I'd like to begin with Heidegger's *Gestell*. In someways it is possible to see Latour's own views on technology and society not only being influenced by but being an extension of Heidegger's provocative and seminal, 1950s, essay, "The Question Concerning Technology" (1977/1954).

In this essay, Heidegger posits that there lies in technology a supreme danger, indeed *the supreme danger* (p. 26). But he also says, throughout the essay, that "The essence of technology is by no means anything technological" (p. 4), that "The essence of modern technology . . . is itself nothing technological (p. 20), and that "What is dangerous is not technology" (p. 28). That is, the supreme danger which frightens Heidegger so much lies not in technology itself, nor really even in our relationship with technology, but in *the essence of technology* -- its Gestell. Gestell, Heidegger says, means in its ordinary usage, a frame, "some kind of apparatus, e.g., a bookrack"(p. 20). But in speaking of *das Ge-stell* -- "the name for the essence of

modern technology" (pp. 21 & 20), Heidegger has turned the simple sense of frame into a complex sense of Enframing. In Enframing, we come in contact with "the sense of destining and danger" (p. 28). What Heidegger is after here is that modern technology -- and technology is a way to define "modern man" -- as a vehicle, enframes, entraps, seduces us into a particular *way of thinking*. This way of thinking, enframes us in a mode whereby

> man . . . exalts himself to the posture of lord of the earth.
> In this way the impression comes to prevail that everything
> man encounters exists only in so far as it is his construct. (p. 27)

Since technology is so obviously a human construct, indeed a human male construct, its very success -- nuclear power, "ethical" drugs, advanced weaponry -- seduces us ("challenges us forth" really) to think only in technological terms. In so doing we become not only enframed but also entrapped -- as is the young engineer in ARAMIS -- and thus conceal from ourselves our human sense of *being*. As Heidegger puts it:

> The rule of Enframing [Gestell] threatens man with the
> possibility that it could be denied to him to enter into
> a more original revealing and hence to experience the
> call to a more primal truth. (p. 28)

Heidegger's fear, one shared by Latour who mentions Heidegger a number of times and Gestell at least once (1993, p. 124), is that in relying on technology and its frame of thought we lose sight of our basic humanness -- we destroy villages and those in them in order to "save" such for democracy. Within this mechanistically ordered, "cause-effect coherence [says Heidegger] even God can . . . lose all that is exalted and holy" (p. 26).[1]

Latour explores, with depth, this relationship between democratic humanness and technological "rationality" in We Were Never Modern (1993). He

argues that these two come from differing (and often unrecognized, concealed) strands within the Enlightenment -- a scientific strand and a humanist strand. The word "modern," referring to "the historical period that is ending" (p. 11) "designates two entirely different practices" (p. 10) -- one set of practices being pure and objective, the other being mediated and subjective. The first, the scientific strand, is based on the idea of a "transcendent Nature" (p. 41), one that can be studied (and indeed conquered) apart from human peccadillos; the other, the humanist strand, is based on the idea of a mediated nature, culture in its various ways and forms. Not only have the moderns, "the mods," carefully separated these two -- Nature and Society -- they have polarized this separation and "credit only the former" with whatever success they might consider to have achieved over the past centuries (p. 41).

For Latour this dichotomization, so characteristic of modernism but so little understood by the modernists -- hence the title of never being (understanding) this movement and time era -- has produced a "crisis": the proliferation of hybrids. These hybrids, which have increased dramatically in the past decades, result from interbreedings of the scientific and the social: "frozen embyros, expert systems, digital machines, sensor-equipped robots, super vegetables, data banks, gene synthesizers" (p. 49). Like ARAMIS they do have a life of their own but they are not purely the children of science nor of society; the separation between these two is so great that science and society do not realize they have united to produce children. These children are thus left on their own, to wander the world without family, without parents. They are in a word, "monsters." We the people, who have the ultimate responsibility for dealing with these hybrids, have no training in such, believing in the myth of separateness, of the "absolute dichotomy" (p. 40) between science/society, technology/culture.

We cannot be responsible -- to the natural world we inhabit, to ourselves as humans who inhabit -- as long as we continue to see these two worlds and their habits of thought and patterns of action as absolutely separated. We have written, at least tacitly, a Constitution of rights and responsibilities based on this separation. We need a new Constitution, one which sees that the work of purification is and must be intertwined with the work of mediation; that the technological and scientific are influenced by and influence the cultural and social. This understanding is not one the young engineer in ARAMIS was ever able to understand; the story ends with his still believing in the "purity" of science and its handmaiden technology, that with sufficient resources (more bombings in Kosovo) a better world will be created for all.[2]

In his call for a new Constitution -- an official, recognized, mutually agreed upon way of looking at the world and its proliferation of hybridized networks -- Latour is by no means denigrating science and its technological accomplishments. Far, far from it. He chastizes both Habermas (p. 60) and postmodernism (p. 46) for their rejection of empirical research. As he says, "Instead of moving on to empirical studies of the networks that give meaning 3 . . . postmodernism rejects all empirical work as illusory and deceptively scientistic" (p. 46). Postmodernism is for Latour more a "symptom" "of something gone awry" than it is "a fresh solution" (p. 46). Postmodernism (at least that of the nonchaotic variety) [4] Latour believes remains "suspended between belief and doubt, waiting for the end of the millenium" (p. 9). He quite firmly dismisses this movement. Instead he wants us to explore a new land, the land of hybridized networks, the land "of nonmodern worlds. [Here lies] the Middle Kingdom [one where science and society not only affect one another but are understoood to do so] as vast as China and as little known"(p. 48).

This Middle Kingdom Latour wishes to resurrect is not a totally new kindgom, it is one which has roots in the premodern, that world which existed

before modernism bifurcated all (purifying, objectifing, and giving precedence to the scientific). This land needs a new Constitution, one which recognizes not just people but *things*, the objects of science and the quasi-objects bred by the union of science and society. "We want the meticulous sorting [and representing] of quasi-objects to become possible" (p. 142); "The imbroglios and networks that had no place . . . are the ones that have to be represented, it is around them that the Parliament of Things gathers henceforth" (p. 144).

In ths Parliament of Things, governed by the unmodern Constitution, in this land of the Middle Kingdom, Latour is calling for two "newnesses." One is to put these objects and quasi-objects on display for full viewing and debate -- the ozone hole itself should have representation, as should the chemical industry, and as should those working in that industry, and as shold the residents in the states immediately affected by the meteorology of the polar regions (p. 144). That which is now discussed soto voice, placed under the table, and covered with language specialized should be placed on the table, discussed openly, honestly, and directly in terms the citizenry can understand. The notice that the Star Wars defense missle system has not been perfected should appear up-front, not as a small and final squib placed under the graphic. What Is should be evident, not camoflagued or hidden.

The second "newness" is that in reconceiving the concept of change (the charge as Latour sees it, p. 145) we should not be caught in modernism's bifurcation mode; thus we should not remove ourselves from all that is pre-modern or modern, or even post-modern. All of these have approaches to issues that are worth keeping: From pre-modern thought we should keep a sense of unity and integration, their certainty that transcendences abound; From the moderns we should keep their proliferation of hybrids, their ever increasing scale of action, their creation of stabilized objects, their sense of freedom; From the postmoderns we

should keep their sense of incredulity, their pluralism, their reflexivity (pp. 133 - 135). From the sciences we should keep "their daring, their experimentation, their uncertainty, their warmth" (p. 142). But we will no longer believe in their exclusiveness, "their objectivity, their truth, their coldness, their extraterritoriality -- qualities they have never [really] had" (p. 142). This land of the Middle Kingdom, between the ples of objectivity and subjectivity, absolutism and relativism, science and society will be a brave and true new land.

What I believe Latour is after here is not just a unificatin of that which modernism has rent asunder (in theory, not in practice). Latour underestimates himself when he says: "I have simply reestablished symmetry between the two branches of government, that of things -- called science and technology -- and that of human beings" (p. 138). Latour's reestablishment of symmetry is more than a simple bringing together, he is asking for an "amalgam" of the pre-modern and modern, a blending together or folding into one another the other. In this amalgamated process, the uniqueness of each retains its own flavor while at the same time, through interconnections, being an integral part of a larger network. Without the uniqueness of the science we have we would not have the society we have. Each is the other to/of the other; here is a new way to visualize self. We are each of us, in our own selves the other to our other. Our selfness depends on the quality of our otherness.

In this process of building a "nature-culture" network (p. 7), Latour intends to keep and maintain the autonomy of both science and society, while at the same time blending them into a new whole, a whole where all have voices.

ENDNOTES

1. Heidegger does not end his essay on a purely negative note -- one wherein "Enframing reigns," thus "concealing" all *Being* except the techno-rational, and

leaving us helpless against its "destining" power. Rather, just after talking in these terms he quotes the following stanza from the German poet Friedrich Hölderlin:

> But where danger is, grows
> The saving power also. (p. 28)

This saving power is that of "man's" artistic being, his sense of *poesis*. Through "thinking" -- thinking which questions reflectively and deeply -- are we able to "keep watch over the unconcealment" (p. 32) which entraps us and makes us unwitting slaves of the need to control. In seeing "technology as an instrument [by which we can control nature for society's "best" ends] we remain held fast in the will to master it" (p. 32). This is the "supreme danger," the one concealed from us by the "essence" of technology: the more we think in control terms, the more we unwittingly become slaves of the need to control, and the more we see Being only in terms of control.

Poesis represents that aspect of Being wherein the artistic, aesthetic, human, beautiful, spirit(ful), and true blend. The ideal (Greek in essence) is a conjunction of *techné* and *poesis;* and our power to bring forth this ideal occurs just at the darkest moment, when Gestell is the strongest. But it will occur only if we are ever vigilant not to get caught up in the active frenzy of technology and in the seduction of its productivity -- as did the young engineer in ARAMIS. Instead, we need to recognize that spiritful and contemplative "questioning is the piety of thought" (p. 35). Grand as this idea is, will it ever happen ? Heidegger says, "Whether art may be granted this highest possibility of its essence in the midst of the extreme danger, no one can tell" (p. 35).

Richard Bernstein (1993, Ch. 4) while praising this ideal, theoretically, also sees its practical dangers and how these dangers played themselves out in Heidegger's own life, especially in his exaulting of the poetic (*poesis*) over the practically active (*phronésis*) and thus succumbing to the transcendent lure of "Nazism."

2. It is interesting to note that the conflict in Kosovo is just the sort of quasi-object (network of hybrids) Latour is bringing to our attention -- it is not military in the usual sense for it has been predicated on advanced technology winning all. That (unexpectedly) failing, personal negotations were integrated with the bombing. No ground troops, the heart of all previous military operations, have been used. This is a new "war," one quite disconcerting to the generals in charge and one which will require a rewriting of textbooks on military strategy. The battle plan was predicated

on the complete success of high technology (conventional helicopters, although potent, were never used) and that failing, negotations were introduced. The technological and the social have influencd each other with the strategy shifting from technology alone to technology with negotations (and negotations with an indited war criminal has been an anathema to many military personal). Working this hybrid network has been disconcerting to many, especially to those wishing to use technology in greater degrees (broader, less selective target bombing and more of the bombing) and those who wished to use negotiations exclusively or at least with bombing only as a threat.

As one speculates about the use of our most high-powered military technology, atomic bombs, one wonders whether in World War II we would have used such against Europeans as oppossed to our use of such against "Japs." Are Serbians European ? I believe Latour is correct, the hybridization of culture and technology is intricate in ways not easily seen. Does not war and the killing of the "other" always require us to see the "other" not just as other but as a foreign, barbarian "other "? And do we not need to use social manipulation, strongly influenced by language, to achieve this purpose ? Where does truth reside in this maze ?

3. In this phrase "empirical studies of the networks that give meaning," I am quickly reminded of the work of Gregory Bateson. He, too, saw mind and nature as a necessary unity, as a network of relations. See Mind and Nature (1979), Angels Fear (1987) and Morris Berman's work on Bateson, The Reenchantment of the World (1981, Chs. 7, 8,9).

4. While Latour sees postmodernism as a confused movement -- a "hyperreality [where} nothing has value; everything is a reflection, a simulacrum, a floating sign" (p. 131), he does recognize that postmodernism is struggling with the contradictions of modernism --"the postmoderns have sensed the crisis of the moderns and attempted to overcome it" (p. 134) -- and sees that in their "pronounced taste for reflexivity" there are attributes worth keeping. This is especially true of the"chaoatic" [my word] postmodernism of Michael Serres whom Latour praises extensively (pp. 52 & 84). I, too, believe there is much to admire in this quite overlooked branch of post-modernism (Doll, 1993, 2000).

STEPHEN PETRINA

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